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4/26/02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Robert J. Watts

PATENT APPLICATION

Serial No.: 09/529,482

Group Art Unit: 3764

1A Filing Date: October 12, 1998

Examiner: L. Hamilton

For: ANKLE-FOOT ORTHOSIS

Hon. Assistant Commissioner for Patents

Washington, D.C. 20231

AMENDMENT UNDER 37 CFR 1.111

Sir:

This paper is in response to the Office Action mailed 23 October 2001, and is accompanied by a petition for a three month extension of the response period, so that the extended period will expire on 23 April 2002. Consideration is respectfully requested.

Please amend the application as follows:

IN THE DRAWINGS:

Please allow applicant to mark Figs. 1a and 1b, plus 2a and 2b as "Prior Art". A letter to the Chief Draftsperson is enclosed. A substitute drawing sheet will be filed upon approval of the proposed change.

IN THE CLAIMS:

✓ Please cancel, without prejudice or disclaimer, Claims 21 through 27. Please amend Claims 1, 3, 10, 11, 12, 15, 16 and 17, and add new claims 28 through 32, as indicated below. Claims 1, 30 and 31 are independent.

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1. [Amended] An ankle-foot orthosis comprising:

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a first tubular portion formed of silicone; said first tubular portion having a first end, a second end, a peripheral wall extending in a first direction from said first end to said second end, and means defining an opening in said peripheral wall;

closing means selectively operable to close said opening in said peripheral wall of said first tubular portion; and

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a second tubular portion formed of silicone and having a first end and a second end, at least a portion of said first end of said second tubular portion being contiguous with at least a portion of said second end of said first portion; said second tubular portion being formed integrally with said first tubular portion to extend from said first portion in a second direction transverse to said first direction;

wherein said orthosis is arranged to be worn by a patient so that said first tubular portion envelops at least a portion of the patient's lower leg in the vicinity of the ankle, and said second tubular portion envelops at least a portion of the plantar and dorsal aspects of the patient's foot, said first and second tubular portions being resiliently flexible to resist plantarflexion of the patient's foot.

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3. [Amended] An orthosis according to Claim 2, wherein the reinforcing means comprises a length of tape, a first end and a second end of the tape being joined together to form a figure-of-eight passing under the instep, behind the ankle and crossing on the dorsal aspect of the foot.

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Sub C3
10. [Amended] An orthosis according to Claim 4, wherein the reinforcing means has a greater stiffness than said first and second tubular portions.

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11. [Amended] An orthosis according to Claim 1, wherein said opening comprises an insertion slit extending substantially midway between the medial malleolus and the lateral malleolus at the back of the ankle towards the calcaneum.

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12. [Amended] An orthosis according to Claim 11, wherein the closing means comprises a mechanical hook and loop fastener, a set of hoops or hooks being provided on one side of the slit and a corresponding set of hooks or hoops being provided on a closure member affixed to the other side of the slit, respective hooks and loops being connectable to securely close the slit.

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15. [Amended] An orthosis according to Claim 1, wherein said second tubular portion envelops said at least a portion of the dorsal and plantar aspects of the patient's foot without enveloping the patient's toes.

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16. [Amended] An orthosis according to Claim 1, wherein said second tubular portion envelops said at least a portion of the plantar aspect of the patient's foot without enveloping the calcaneum.

17. [Amended] An orthosis according to Claim 1, wherein the first and second tubular portions are of 35 shore silicone elastomer.

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28. [New] An orthosis according to Claim 6, wherein said rib is integrally formed with said first and second tubular portions.

Prk C5
29. [New] An orthosis according to Claim 2, wherein said reinforcing means comprises a first region of said peripheral wall of said first tubular structure and a second region of a peripheral wall of said second tubular structure, wherein said first and second regions are contiguous and a thickness of said first and second tubular portion peripheral walls inside said first and second regions is greater than a thickness of said first and second tubular portion peripheral walls outside of said first and second regions.

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30. [New] An ankle-foot orthosis comprising:

a silicone structure having a first tubular portion and a second tubular portion that together define at least a portion of a generally L-shaped cavity, said cavity being shaped to accept in use at least part of a patient's foot and lower leg, said second portion being at least partly contiguous with said first portion and being formed integrally therewith,

wherein the structure is of a rigidity that maintains said cavity when said orthosis is not being worn by a patient,

said first and second tubular portions are resiliently flexible to resist plantarflexion of the patient's foot, and

said first tubular portion envelops at least a portion of the patient's lower leg in the vicinity of the

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ankle and said second tubular portion envelops at least a portion of the plantar and dorsal aspects of the patient's foot when the orthosis is worn by the patient.

31. [New] An ankle foot orthosis for resisting plantarflexion of a patient's foot, the orthosis comprising:

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a resiliently flexible L-shaped silicone structure having a first tubular portion, and a second tubular portion that is at least partly contiguous with said first portion and is formed integrally therewith, the structure having an outer surface consisting of a first region having a first flexural stiffness and a second region with a second flexural stiffness that is greater than said first flexural stiffness;

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wherein said structure is configured so that said second region overlies at least a portion of a dorsal aspect of the patient's foot and a portion of the patient's lower leg when the orthosis is worn by the patient, said second region being provided to augment the resistance to plantarflexion of the patient's foot provided by the silicone structure of the orthosis.

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32. [New] An ankle-foot orthosis according to Claim 31, wherein said structure comprises a peripheral wall having a first thickness in said first region, and a second thickness in said second region, said second thickness being greater than said first thickness.